

WHAT IS CLAIMED IS:

- 1 1. A headband, comprising:
 - 2 a low stretch segment sized to fit around a wearer's head; and
 - 3 an elastic segment being smaller than said low stretch segment, said elastic
 - 4 segment having a free end and an attached end, said elastic segment being attached at said
 - 5 attached end with said low stretch segment, said free end of said elastic segment configured
 - 6 to form a closed loop with said low stretch segment around a wearer's head.
- 1 2. The headband of claim 1 further comprising a visual indicator, said
- 2 visual indicator configured for monitoring the extended position of said free end of said
- 3 elastic segment.
- 1 3. The headband of claim 2 wherein said visual indicator is a notch, a
- 2 line, a marking, or a combination thereof on said low stretch segment.
- 1 4. The headband of claim 1 further comprising a stop portion, said stop
- 2 portion configured to engage against said elastic segment to limit the stretch of said elastic
- 3 segment.
- 1 5. The headband of claim 4 wherein said stop portion comprises an
- 2 opening having a width that is smaller than the width of said low stretch segment and the
- 3 width of said elastic segment.
- 1 6. The headband of claim 1 further comprising a closure mechanism
- 2 configured to couple said free end of said elastic portion with said low stretch segment to
- 3 secure said closed loop.
- 1 7. The headband of claim 6 wherein said closure mechanism is a hook
- 2 and loop closure, a snap, a button, an adhesive, a pin, or a combination thereof.
- 1 8. The headband of claim 1 further comprising a tab portion having a first
- 2 end and a second end, said first end of said tab portion being connected with said free
- 3 end of said elastic portion, said second end of said tab portion configured to form a closed
- 4 loop with said low stretch segment.

1 9. The headband of claim 8 wherein said tab portion is less elastic than
2 said elastic portion.

1 10. The headband of claim 8 further comprising a stop portion, said stop
2 portion configured to engage against said elastic segment to limit the stretch of said elastic
3 segment; and

4 wherein said tab portion includes an indicator portion between its first end and
5 said stop portion such that said indicator portion when visible indicates that the headband
6 needs re-tightening; and when said indicator portion is not visible it indicates an adequate
7 level of tension corresponding with delivering a pressure in the range higher than the venous
8 pressure and lower than the capillary pressure to the forehead of the wearer.

1 11. A headband for applying pressure to an oximetry sensor on the
2 forehead of a patient, comprising:

3 a low stretch segment sized to fit around a patient's head;

4 an elastic segment being smaller than said low stretch segment, said elastic
5 segment having a free end and an attached end, said elastic segment being attached at said
6 attached end with said low stretch segment;

7 a tab portion having a first end and a second end, said first end of said tab
8 portion being connected with said free end of said elastic portion, said second end of said tab
9 portion configured to form a closed loop with said low stretch segment around a patient's
10 head;

11 a visual indicator configured for monitoring the extended position of said free
12 end of said elastic segment;

13 a stop portion, said stop portion configured to engage against said elastic
14 segment to limit the stretch of said elastic segment, said stop portion comprising an opening
15 having a width that is smaller than the width of said low stretch segment and the width of said
16 elastic segment; and

17 a closure mechanism configured to couple said second end of said tab portion
18 with said low stretch segment to secure said closed loop.

1 12. The headband of claim 11 wherein said visual indicator is on said tab
2 portion between its first end and said stop portion such that said indicator portion when
3 visible indicates that the headband needs re-tightening; and when said indicator portion is not

4 visible it indicates an adequate level of tension corresponding with delivering a pressure in
5 the range higher than the venous pressure and lower than the capillary pressure to the
6 forehead of the patient.

1 13. The headband of claim 11 wherein said visual indicator is a notch, a
2 line, a marking, or a combination thereof on said low stretch segment.

1 14. The headband of claim 11 wherein said closure mechanism is a hook
2 and loop closure, a snap, a button, an adhesive, a pin, or a combination thereof.